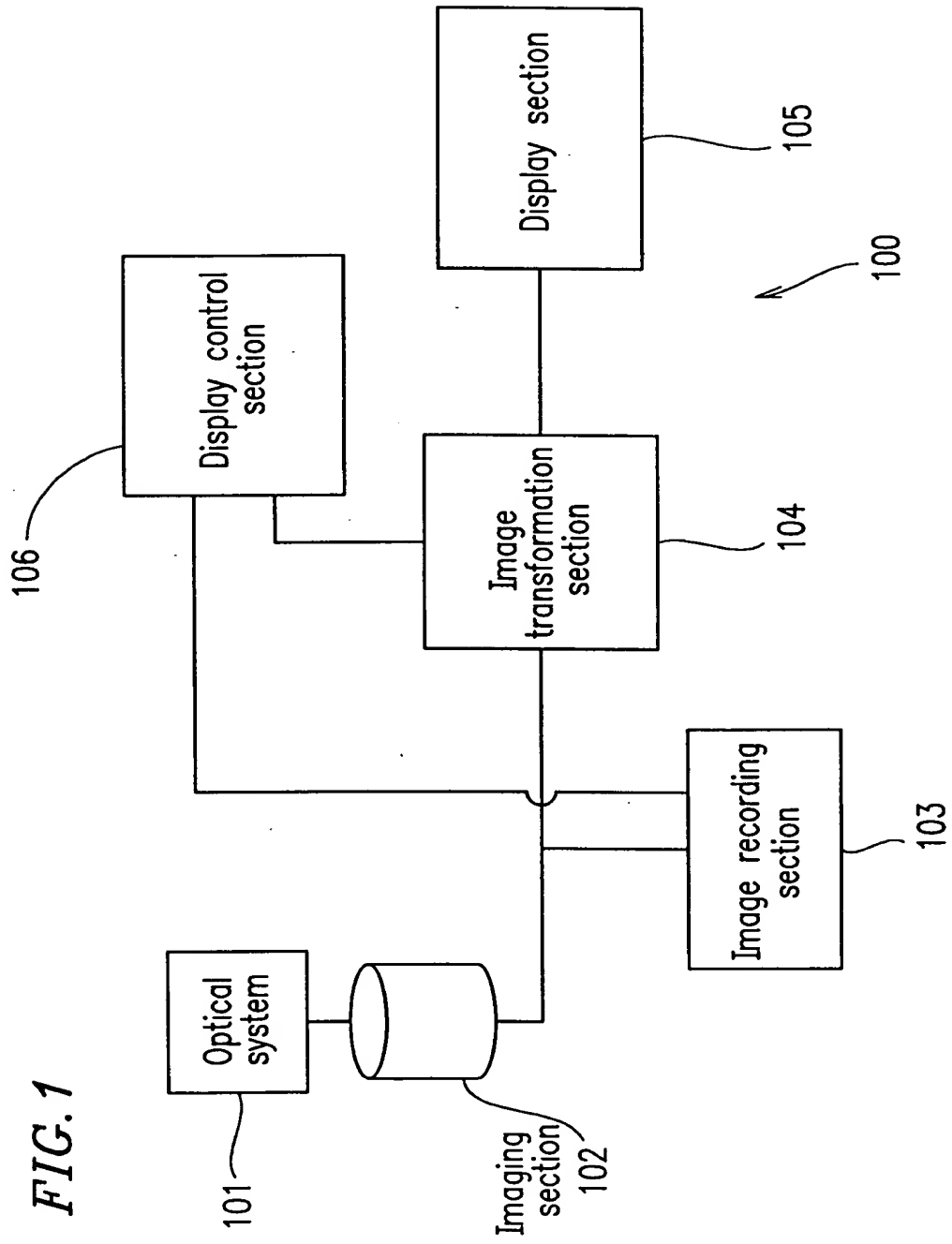
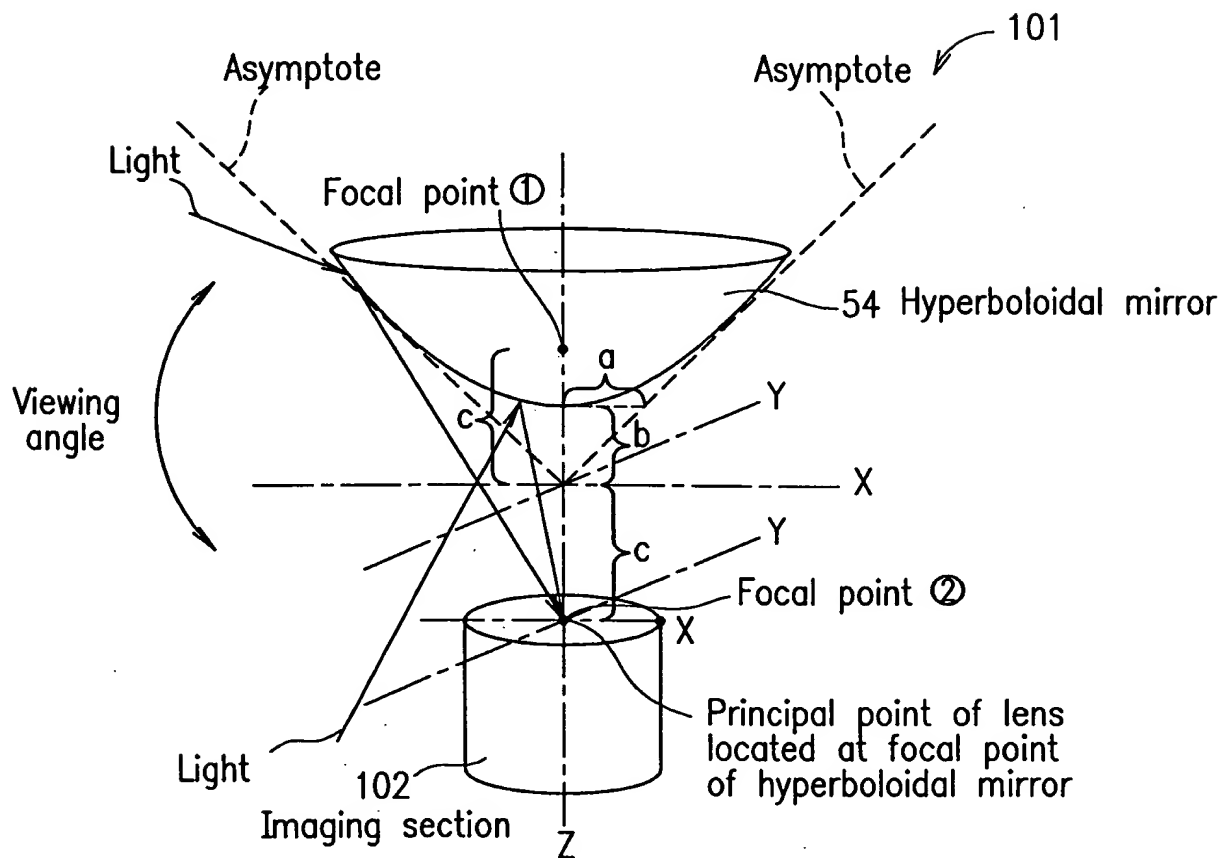


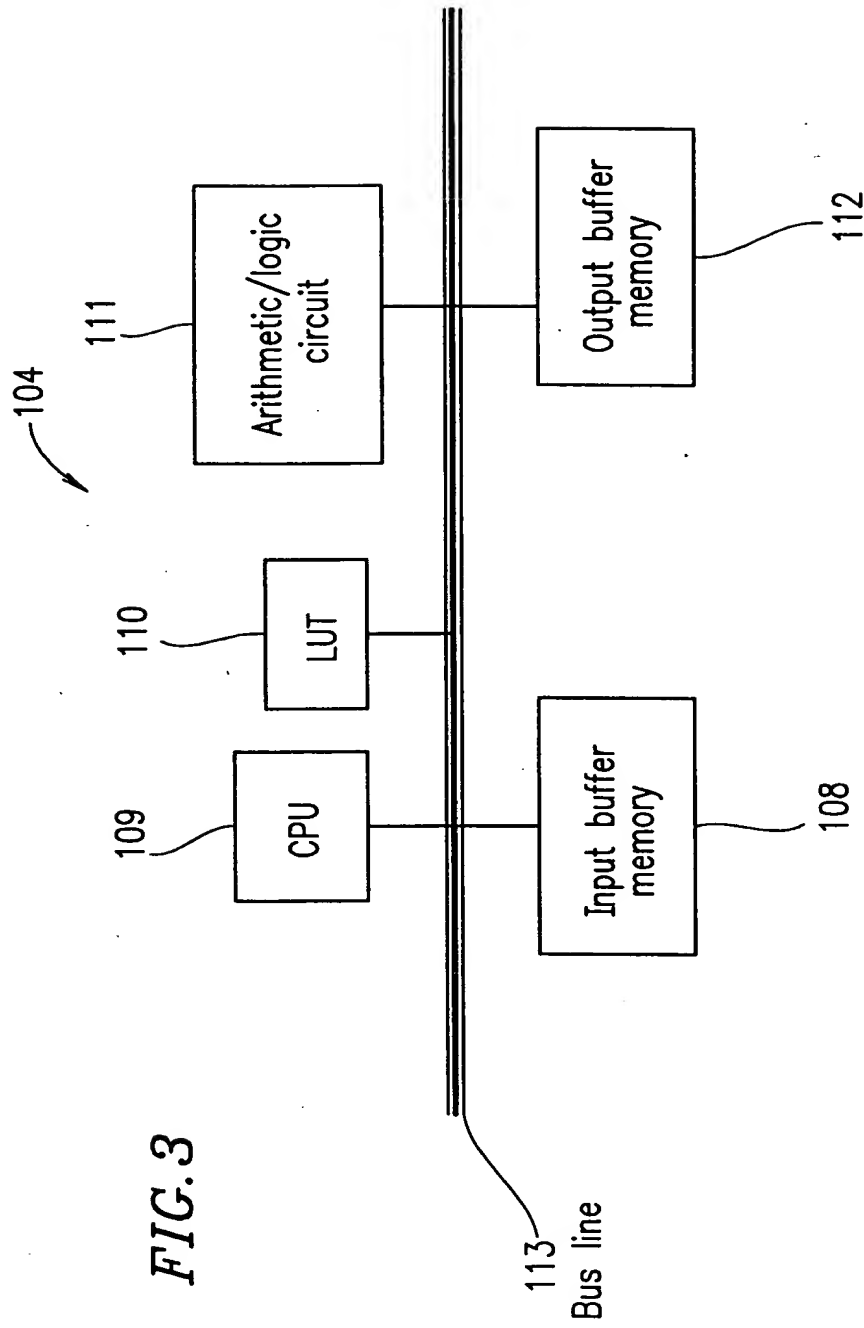
FIG. 1



**FIG. 2**Hyperboloidal mirror optical system

$$\frac{X^2 + Y^2}{a^2} - \frac{Z^2}{b^2} = -1$$

$$c^2 = a^2 + b^2$$



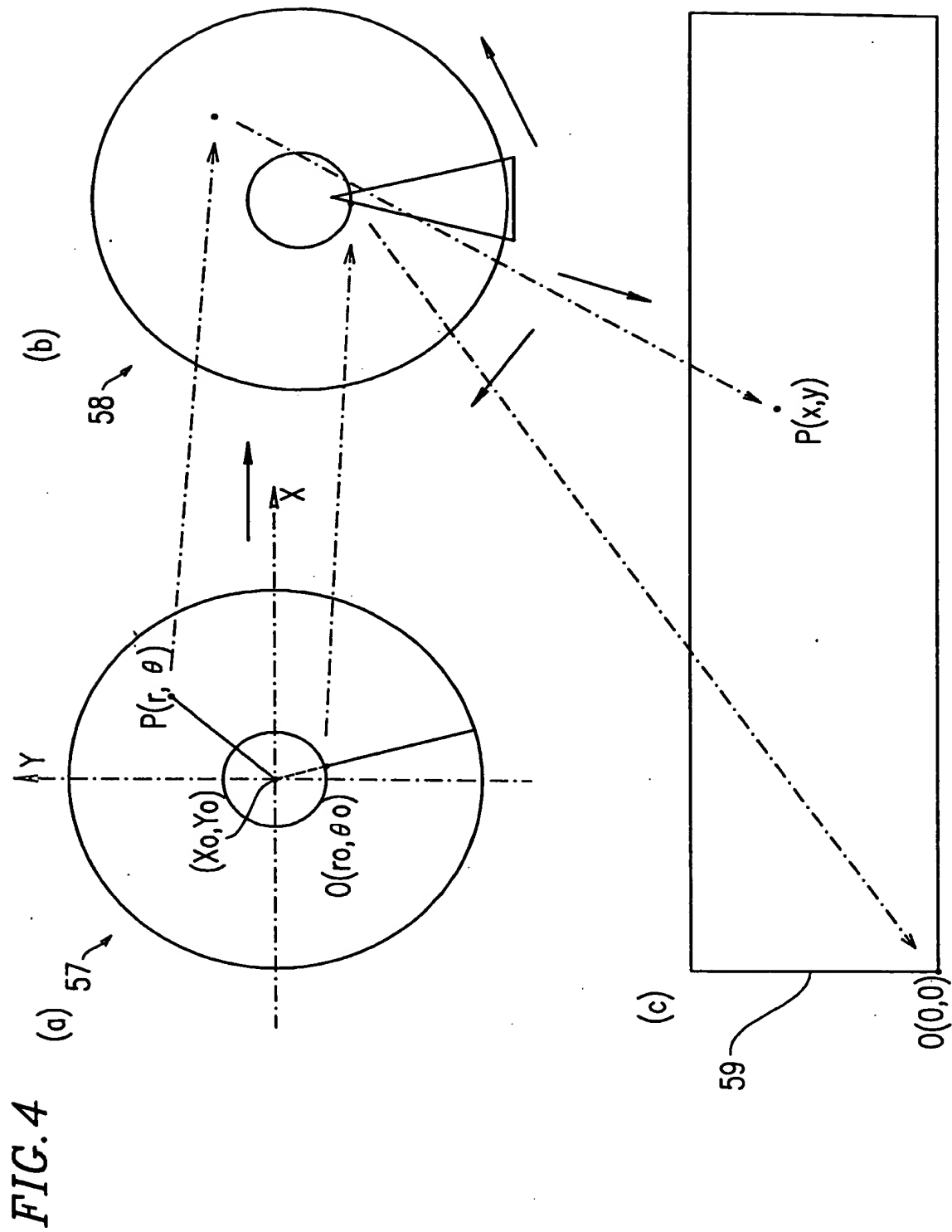
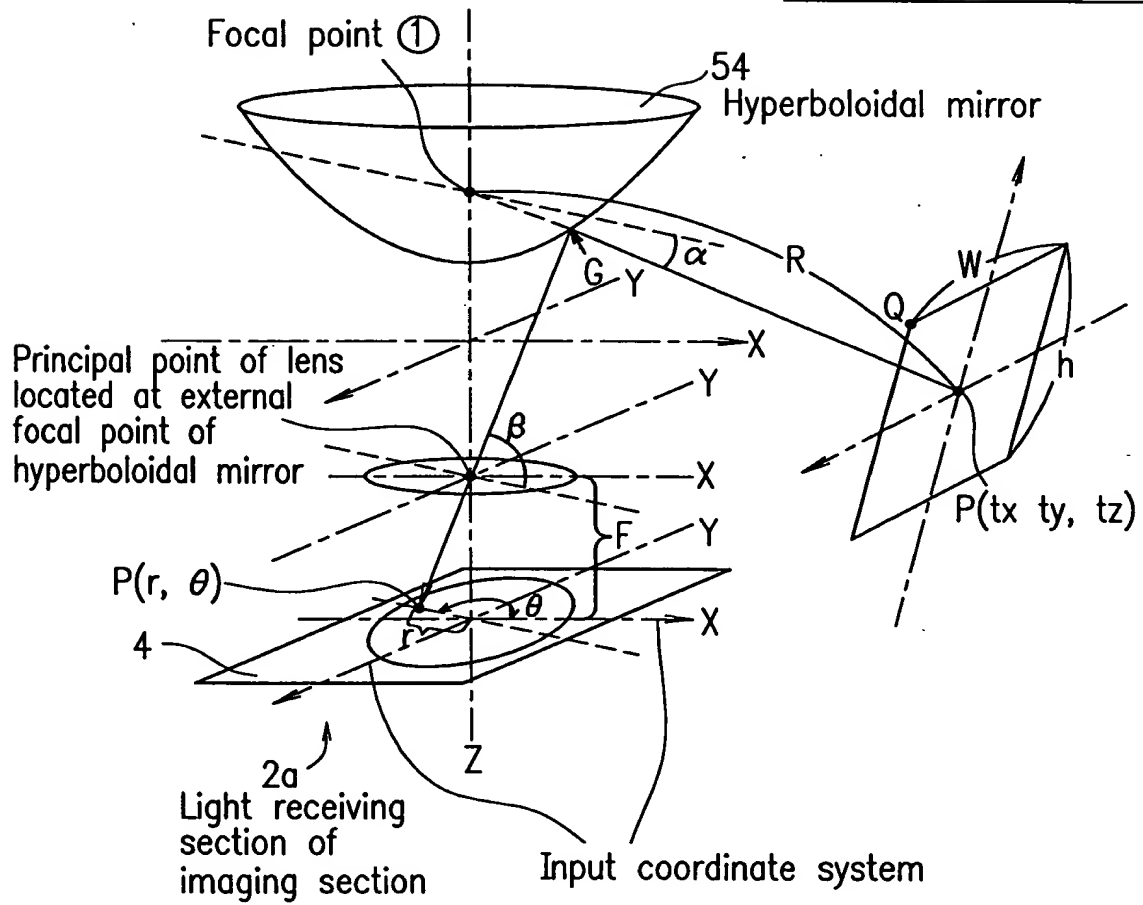
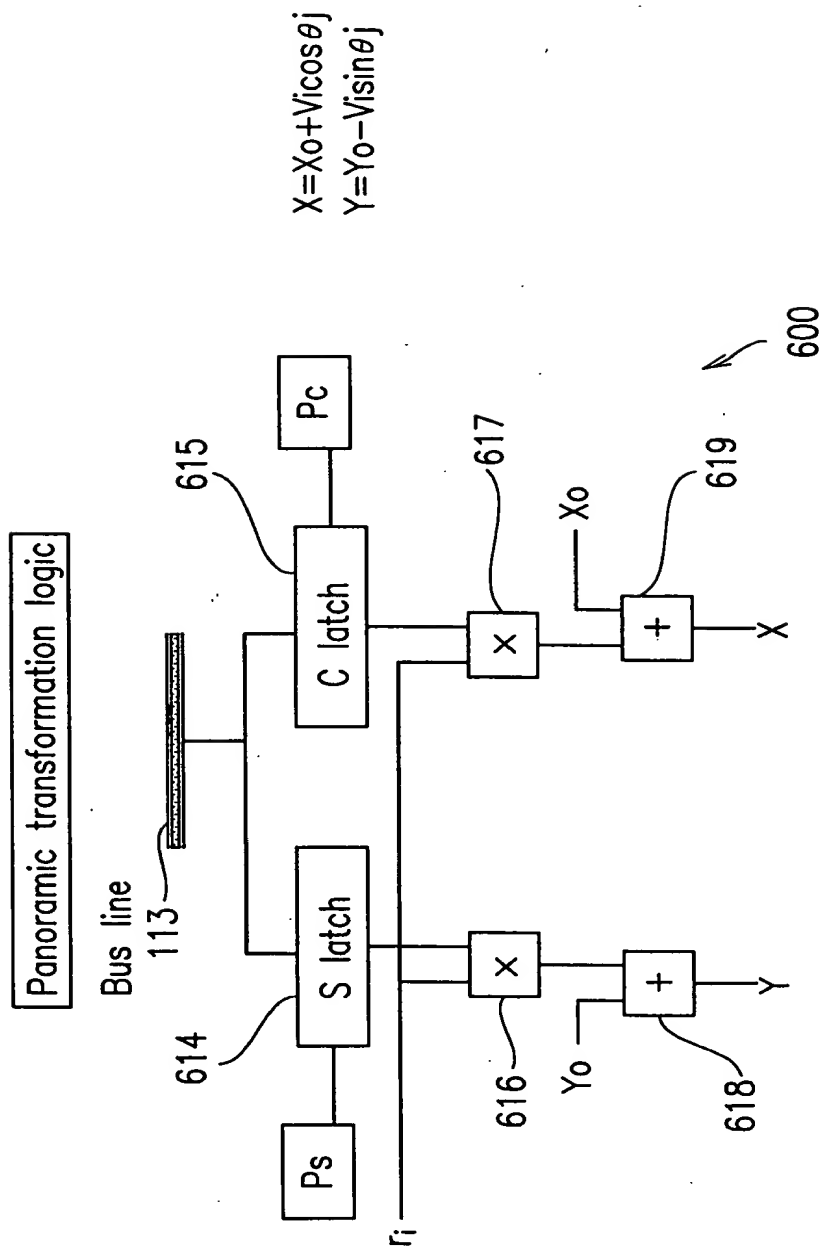


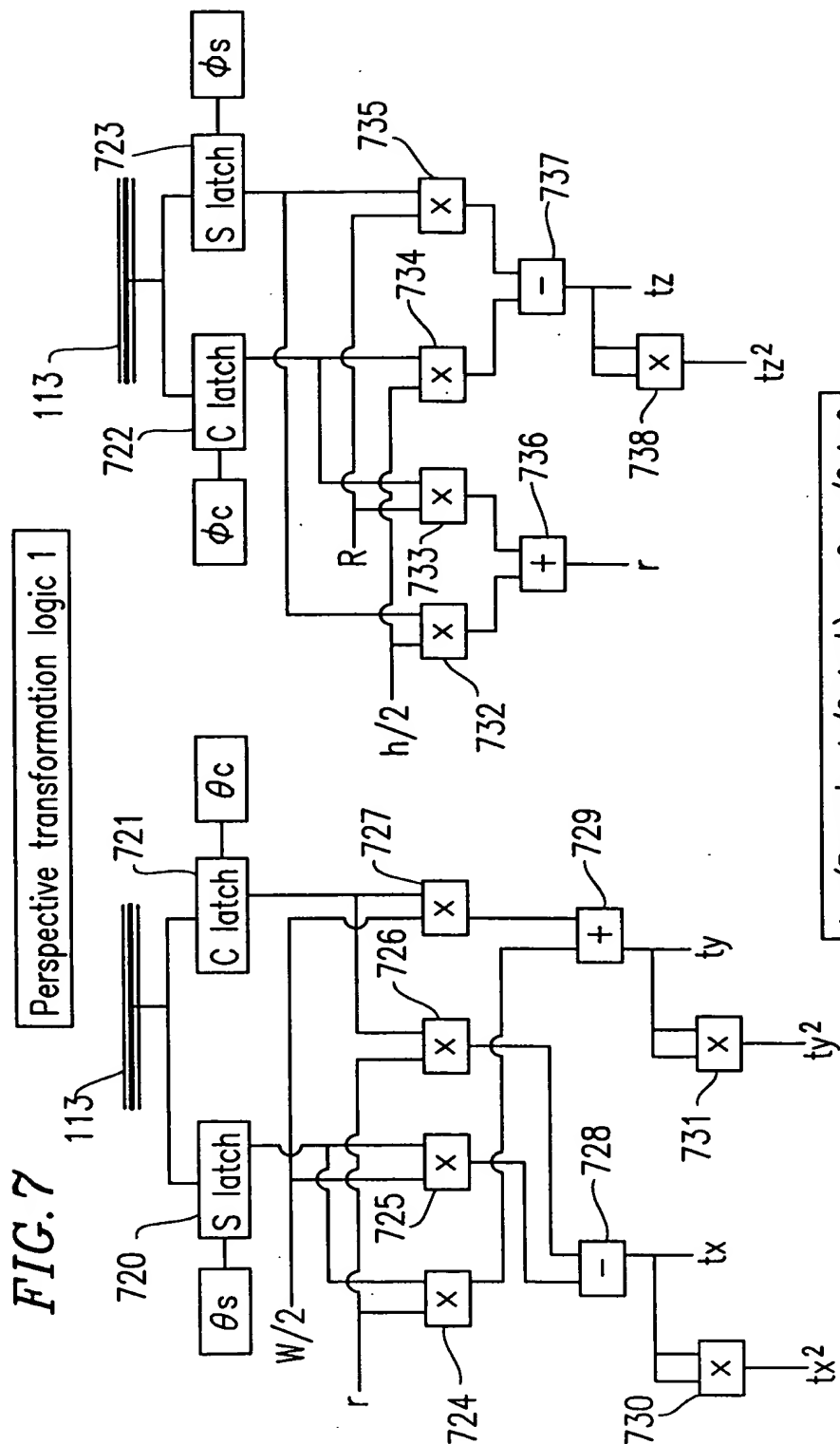
FIG. 5

Perspective transformation

102050.26294860

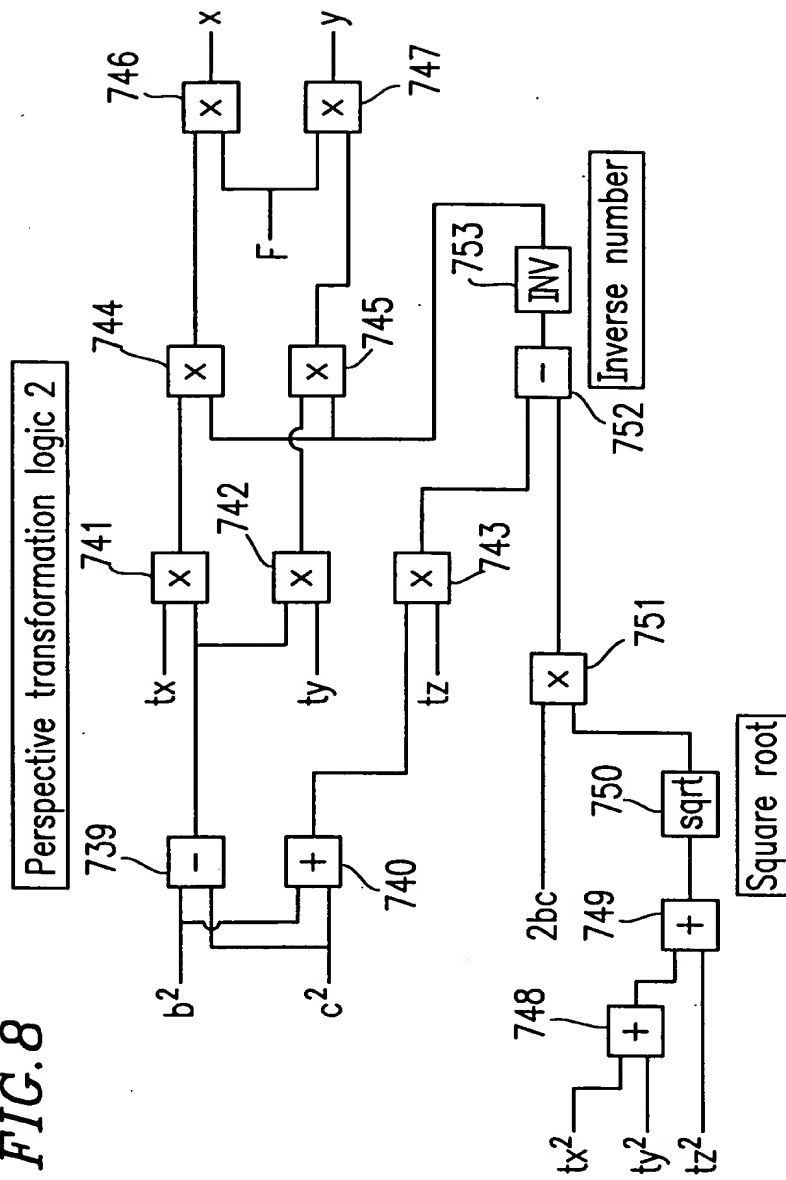
FIG. 6





$$\begin{aligned} tx &= (R \cos \phi + h/2 \sin \phi) \cos \theta - w/2 \sin \theta \\ ty &= (R \cos \phi + h/2 \sin \phi) \sin \theta + w/2 \cos \theta \\ tz &= R \sin \phi - h/2 \cos \phi \end{aligned}$$

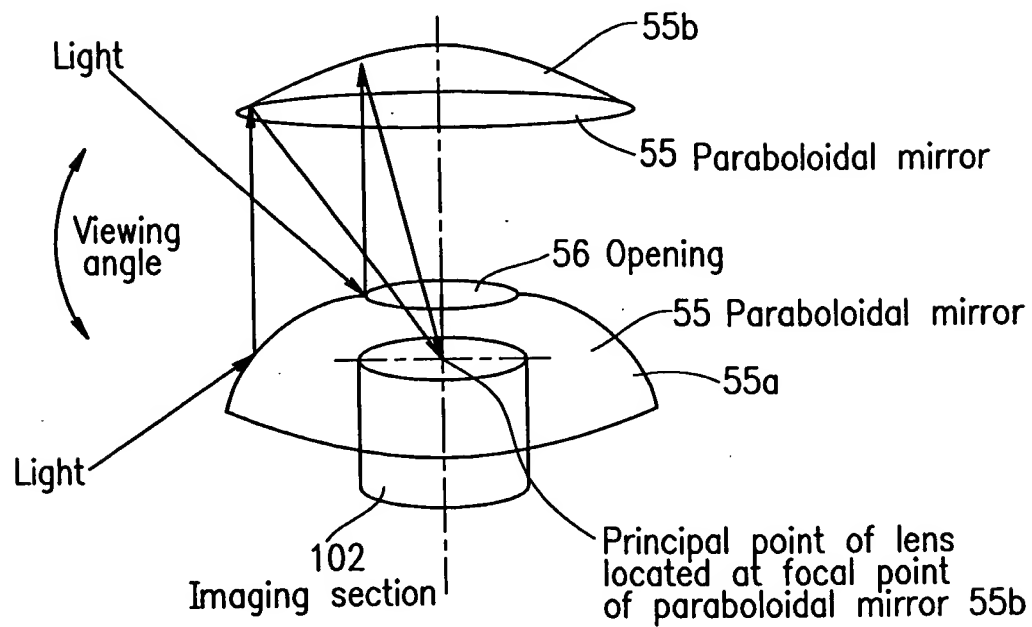
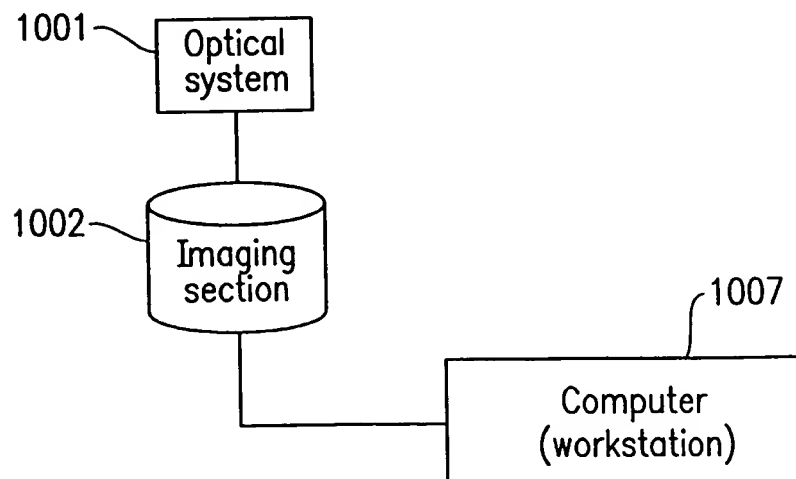
FIG. 8



$$x = F \times (((b^2 - c^2) \times tx / ((b^2 + c^2) \times tz - 2bc \times \sqrt{tx^2 + ty^2 + tz^2})))$$

$$y = F \times (((b^2 - c^2) \times ty / ((b^2 + c^2) \times tz - 2bc \times \sqrt{tx^2 + ty^2 + tz^2})))$$



**FIG. 9**Paraboloidal mirror optical system**FIG. 10**

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